

Claims

1. A recombinant substantially full length mutant allergen, wherein said mutant allergen has a reduced enzymatic activity compared to the wild-type allergen.
2. A recombinant mutant allergen as claimed in claim 1, wherein said allergen is a mutant of a type I cysteine protease allergen.
3. A recombinant mutant allergen as claimed in claim 1, wherein said allergen a mutant of DerP1 from *Dermatophagoides pteronyssinus*.
4. A recombinant mutant allergen as claimed in claim 3, wherein said mutant DerP1 comprises an active site mutant.
5. A recombinant mutant allergen as claimed in claim 4, wherein said active site mutant DerP1 comprises a mutation of the Cys 34 residue.
6. A recombinant mutant allergen as claimed in claim 5, wherein said mutation of the Cys 34 residue comprises an alanine substitution.
7. A recombinant mutant allergen as claimed in claim 4, wherein said active site mutant DerP1 comprises a mutation of the His 170 residue.
8. A recombinant mutant allergen as claimed in claim 3, wherein said mutant DerP1 comprises a mutation at the site of cleavage between the propeptide and the mature molecule.
9. A recombinant mutant allergen as claimed in claim 8, wherein said mutation at the site of cleavage between the propeptide and the mature molecule comprises a deletion of the residues NAET.
10. A recombinant mutant allergen as claimed in claim 3, wherein said mutation comprises the deletion or substitution of cysteine residues which are involved in disulphide bridge formation.
11. Stable recombinant proDerP1.
12. A recombinant mutant allergen having the sequence as set out in SEQ ID NO. 1
13. A recombinant mutant allergen having the sequence as set out in SEQ ID NO. 2
14. A recombinant mutant allergen having the sequence as set out in SEQ ID NO. 3
15. A recombinant mutant allergen having the sequence as set out in SEQ ID NO. 4
16. A recombinant mutant allergen having the sequence as set out in SEQ ID NO. 5

17. An isolated nucleic acid molecule encoding a mutated version of an allergen as claimed in any one of claims 1 to 16.

Sub-A 7 18. A vaccine comprising a recombinant mutant allergen as claimed in any one of claims 1 to 17, and an adjuvant.

19. A vaccine as claimed in claim 18, wherein the adjuvant is a preferential stimulator of Th1-type immune responses.

20. A vaccine as claimed in claim 18, wherein the adjuvant comprises one or both of QS21 and 3-O-deacylated monophosphoryl lipid A.

21. Use of a recombinant mutant allergen in the manufacture of a medicament for the treatment of allergy.

22. A method of treating or preventing allergic responses comprising administering to an individual suffering from or susceptible to allergy a vaccine as claimed in claim 18.

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